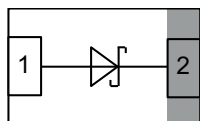


Small Signal Schottky Diode



LINKS TO ADDITIONAL RESOURCES



3D Models

SPICE

Models



Application Notes

MECHANICAL DATA

Case: DFN1006-2A

Weight: 0.83 mg

Molding compound flammability rating: UL 94 V-0

Terminals: high temperature soldering guaranteed:

Peak temperature max. 260 °C

Packaging codes/options:

08/10K per 7" reel (8 mm tape)

FEATURES

- This diode features very low turn-on voltage and fast switching
- This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- Leadless ultra small DFN1006-2A package (1 mm × 0.6 mm × 0.45 mm)
- Power dissipation better than SOT-23
- Surface-mounted device (SMD) plastic package with visible and sidewall plated / wettable flanks
- Soldering can be checked by standard visual inspection. No X-ray inspection necessary to meet automotive AOI requirements
- AEC-Q101 qualified available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



PARTS TABLE

PART	ORDERING CODE	AEC-Q101 QUALIFIED	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAS40L	BAS40L-G3-08	no	Single	A.	Tape and reel
	BAS40L-HG3-08	yes			

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V _R	40	V
Forward current	on FR-4 board with recommended soldering footprint	I _F	200	mA
Non-repetitive peak forward current	T _J = 25 °C, t _p = 10 ms	I _{FSM}	500	mA
	T _J = 100 °C, t _p = 10 ms		200	
	T _J = 125 °C, t _p = 20 μs		500	
Power dissipation	on FR-4 board with recommended soldering footprint	P _{tot}	300	mW
	R _{thJL} = 100 K/W		1250	mW

THERMAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	according to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	R _{thJA}	420	K/W
Thermal resistance junction to lead		R _{thJL}	100	K/W
Maximum junction temperature		T _{J max.}	150	°C
Storage temperature range		T _{stg}	-55 to +150	°C
Operating temperature range		T _{op}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Leakage current	$V_R = 40\text{ V}, T_J = 25\text{ }^{\circ}\text{C}$	I_R			10	μA
	$V_R = 30\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$				200	μA
	$V_R = 40\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$				500	μA
Forward voltage	$I_F = 1\text{ mA}$	V_F			400	mV
	$I_F = 10\text{ mA}$				560	mV
	$I_F = 40\text{ mA}$				1000	mV
Diode capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$	C_D		2.9		pF

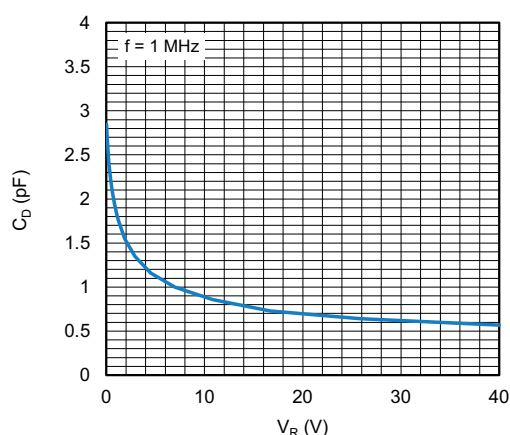
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Capacitance vs. Reverse Voltage

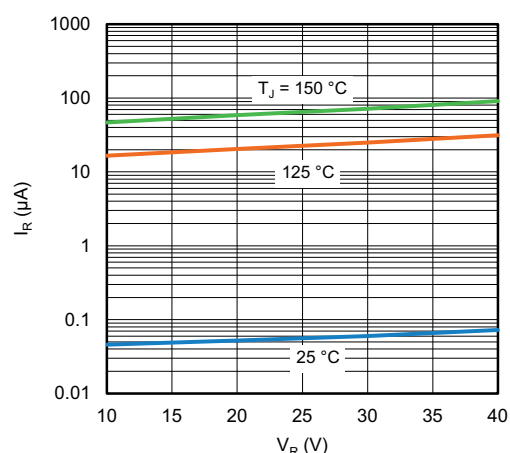


Fig. 3 - Typical Reverse Leakage Current vs. Reverse Voltage

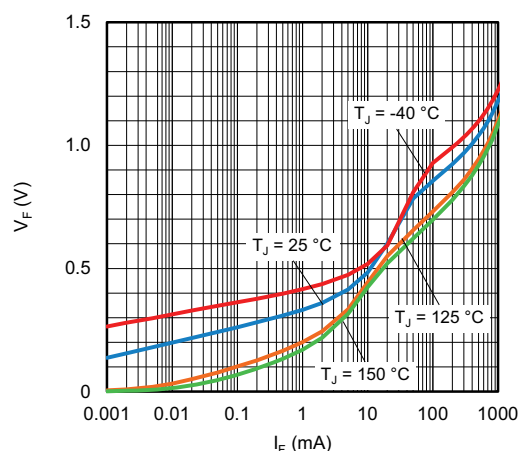
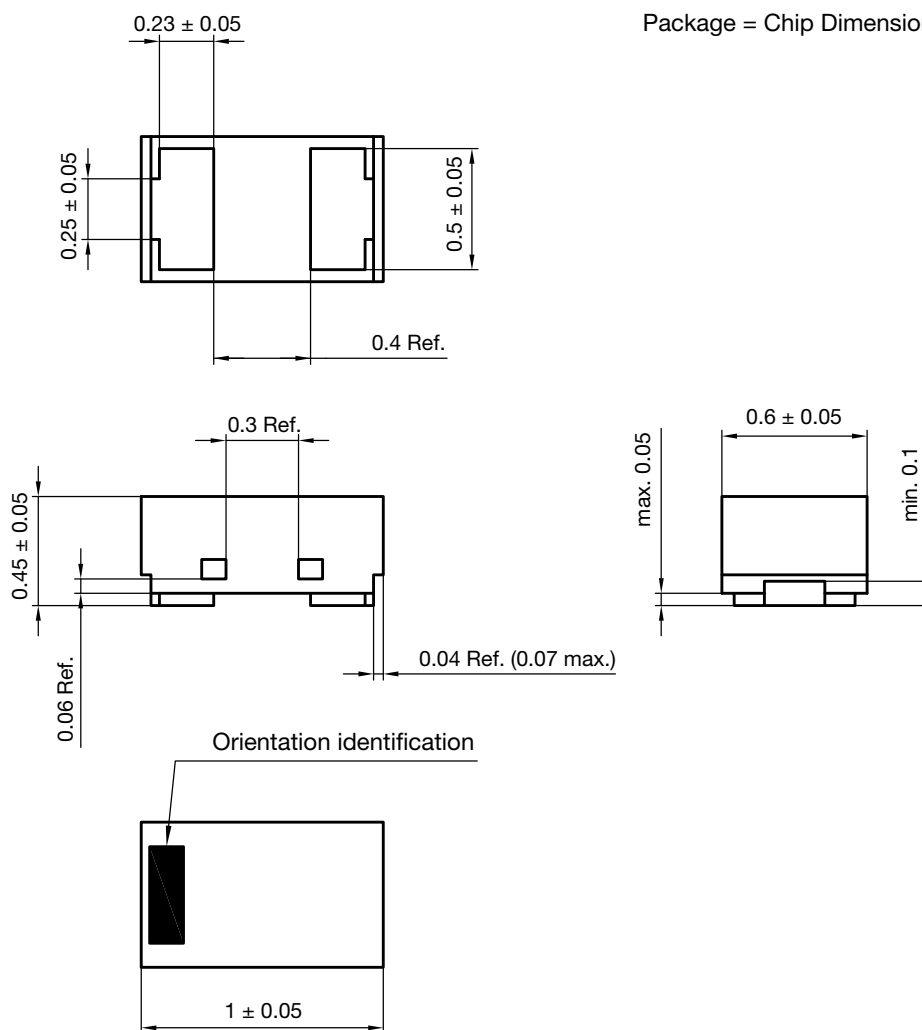
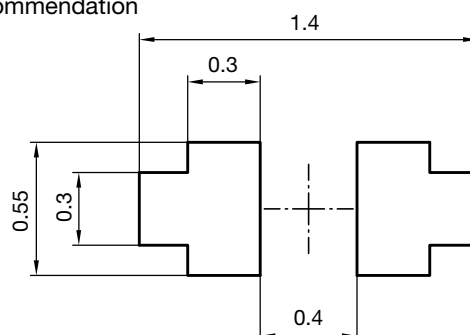


Fig. 2 - Typical Forward Voltage vs. Forward Current

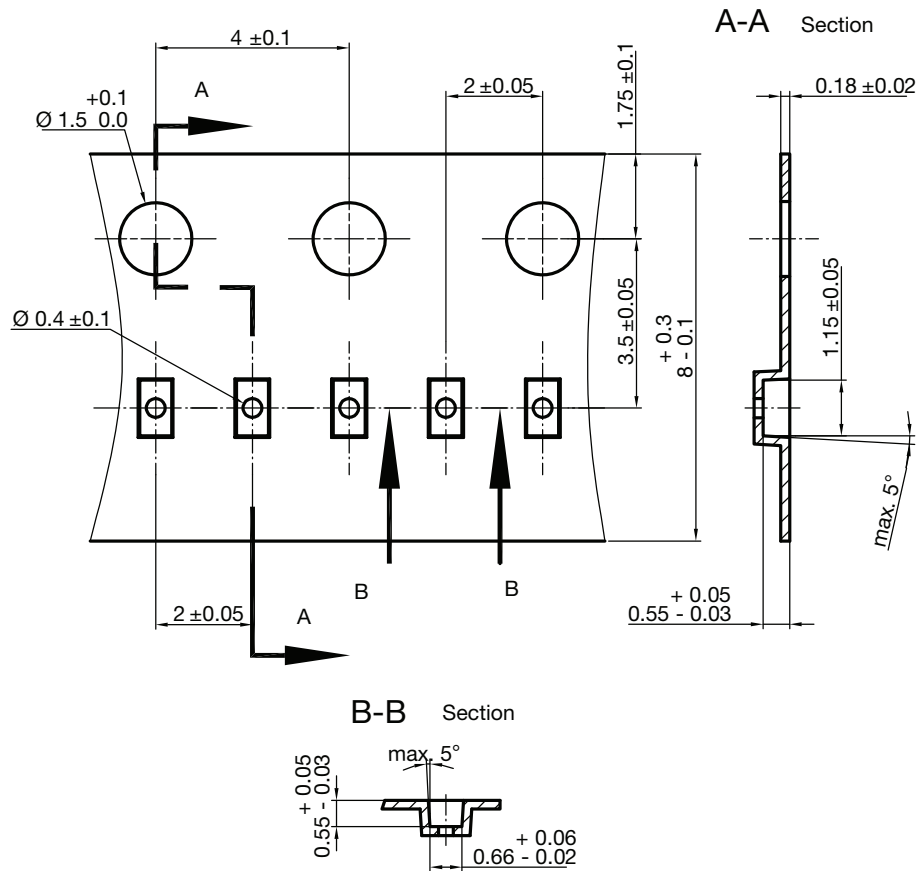
PACKAGE DIMENSIONS in millimeters: **DFN1006-2A**

Package = Chip Dimension in mm


Footprint recommendation


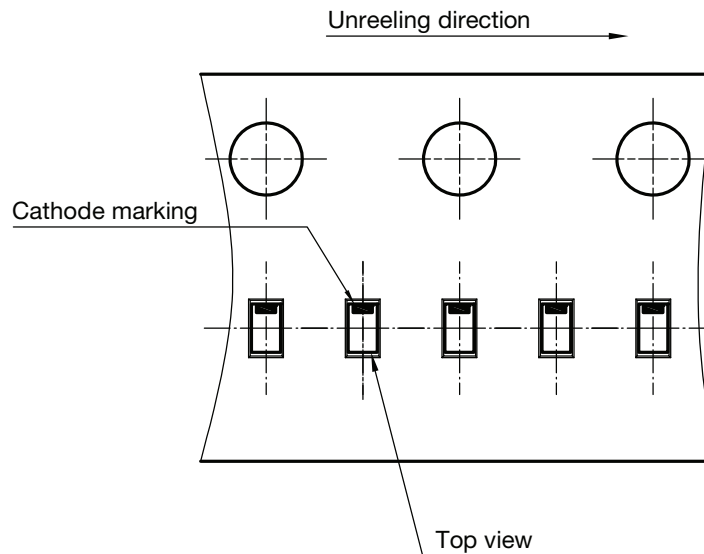
Document no.: S8-V-3906.04-059 (4)
Created - Date: 11-Jul-2018
Rev.5 - Date: 17-Sep-2021

23191

CARRIER TAPE DFN1006-2A


S8-V-3906.04-063 (4)
created 28.10.2019

surface resistance: $10^5 - 10^{11} \frac{\text{OHMS}}{\text{SQ}}$
Cumulative tolerances of 10 sprocket holes is $\pm 0.2 \text{ mm}$

ORIENTATION IN CARRIER TAPE DFN1006-2A


S8-V-3906.04-064 (4)
created 28.10.2019



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